

# Martin Beaussart

## Data Scientist



### EXPERIENCE

#### Data Scientist in a Digital Health Startup

Volv Global SA, Épalinges

January 2023 - Now

- Develop AI models to diagnose people with rare diseases using Electronic health records (EHRs).
- Designed advanced data analytics dashboards to provide insights on patient journeys and disease trends.
- Mentored an intern, fostering knowledge sharing and strengthening team capabilities.

#### Data Scientist in the Oncology Department

Centre hospitalier universitaire vaudois (CHUV), Lausanne

January 2022 - August 2022

- Created an automated method for labeling cells in Hematoxylin and Eosin (H&E) images.
- Improved model accuracy from 78% to 94%, significantly enhancing diagnostic reliability.
- Optimized algorithm complexity from exponential to linear, achieving a 27x speed improvement.

### PUBLICATION

#### Overcoming Racial and Ethnic Biases in the Diagnosis of Patients With Alpha-1 Antitrypsin Deficiency in the United States Using a Machine-Learning Model

American Thoracic Society 2024 International Conference

May 2024

- Poster in collaboration with Volv Global and Takeda about overcoming racial and ethnic biases in the diagnosis of patients with Alpha-1 Antitrypsin Deficiency in the United States using a Machine-Learning model.
- Link:  
[https://www.volv.global/files/ATS-24-Volv-Race-and-Ethnicity-Poster\\_Final\\_13MAY2024.pdf](https://www.volv.global/files/ATS-24-Volv-Race-and-Ethnicity-Poster_Final_13MAY2024.pdf)

### CONTACT

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### GENERAL SKILLS

- Machine Learning
- Deep Learning
- Computer Vision
- Data Visualization
- Data Cleaning
- Data Analysis

### TECHNICAL SKILLS

#### Programming:

- Django
- Git
- Python
- React
- SQL

#### ML & AI Tools:

- Pytorch
- Scikit-Learn
- Transformers

#### Data:

- Elastic
- Kedro
- Kibana
- Numpy
- Pandas
- Polars
- Snowflake

## **WAFFLE: Weighted Averaging for Personalized Federated Learning**

NeurIPS 2021 Workshop on New Frontiers in Federated Learning: Privacy, Fairness, Robustness, Personalization and Data Ownership

December 2021

- First author of a published scientific paper in a NeurIPS workshop on a Personalized Federated Learning method I invented.
- The new method shows a faster convergence and an improvement in accuracy compared with other personalized FL methods.
- Link: <https://arxiv.org/abs/2110.06978>

## **EDUCATION**

### **Master in Computer Science**

École Polytechnique Fédérale de Lausanne (EPFL)

September 2019 - September 2022

### **Bachelor in Computer Science**

University of Geneva

September 2015 - September 2018

## **Visualization:**

- D3
- OpenCV
- PIL
- Plotly
- QuPath

## **VOLUNTEERING**

- President of the Computer Science Student Association, University of Geneva - 2018

## **LANGUAGES**

- **English:** C1 Certificate in Advanced English (CAE)
- **French:** Native

## **HOBBIES**

- Rowing
- Paragliding
- Photography